Carlos J. García-Cervera[1]

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PROFESSIONAL PREPARATION

Universitat de València, Spain	Mathematics	B.S. 1994
Courant Institute, New York University	Mathematics	Ph.D. 1999

APPOINTMENTS

University of California, Santa Barbara	Professor	2009-Present
University of California, Santa Barbara	Vice-Chair	2009-2015
University of California, Santa Barbara	Associate Professor	2007-2009
University of California, Santa Barbara	Assistant Professor	2001-2007
Princeton University	Instructor	1999-2001

VISITING POSITIONS

1. Visiting Professor, Basque Center for Applied Mathematics (BCAM), Bilbao, Spain, 2013-present.
2. Long Term Visitor and Core Participant, Institute for Pure and Applied Mathematics at UCLA, September-December 2013. Special Program: *Materials for a Sustainable Energy Future*.
3. Visiting Professor, Fudan University, Changhai, China, July 2010, July 2011, and July 2013. *Host:* Prof. Weiguo Gao.
4. Long Term Visitor, Institute for Mathematics And Applications, September-December 2008. Special Program: *Mathematics and Chemistry*.
5. Visiting Professor, Princeton University, April-July 2007. *Host:* Prof. Weinan E.
6. Visiting Professor, Universidad del País Vasco, Bilbao, Spain, June 2006. *Host:* Prof. Luis Vega González.
7. Visiting Professor, Hong Kong University of Science and Technology, July 2005. *Host:* Prof. Xiao-Ping Wang.
8. Visiting Professor, Universidad del País Vasco, Bilbao, Spain, June-July 2005. *Host:* Prof. Luis Vega González.
9. Visiting Professor, Hong Kong University of Science and Technology, July 2004. *Host:* Prof. Xiao-Ping Wang.
10. Professor Visitant, Universitat de València, Spain, June-August 2003. *Host:* Prof. Rosa Donat.
11. Visiting Professor, Morningside Center of Mathematics (Chinese Academy of Sciences), Beijing, China, July 2000. *Workshop title:* Magnetic Domains and Magnetic Domain Walls.

[1] Updated on August 14, 2020

FELLOWSHIPS AND AWARDS

Bizkaia Talent Award, July 2014 - 2016
Bizkaiko Foru Aldundia

Marie Curie Award, 2014
European Comission

CAREER Award, August 2007-2012
National Science Foundation

Mochizuki Outstanding Teacher Award, June 2010
University of California, Santa Barbara

Alfred P. Sloan Doctoral Dissertation Fellowship, June 1997–Sept. 1998
Suite 2550, 630 Fifth Avenue, New York, NY 10111

Harold Grad Memorial Prize, May 1996
For outstanding performance and promise as a graduate student, Courant Institute, New York University.

Fellowship given by The Bank of Spain, June 1995–June 1997
Apdo. 15, 28080 Madrid, Spain

"La Caixa" Fellowship, Sept. 1994–June 1995
sponsored in the U.S.A by Indiana University

GRANTS

1. *IGERT: Development of a Graduate Education Program in Computational Science and Engineering with Emphasis on Multiscale Problems in Fluids and Materials*, NSF Grant **DGE02-21715**. Award Period: 07/01/02-06/30/07. Total Award Amount: $2,684,749. Principal Investigator: Prof. Linda Petzold (Mechanical Engineering and Computer Science, UCSB).

2. *Analysis of Spin Polarized Transfer and Micro-Macro Theories for Polymers and Liquid Crystals*, NSF Grant **DMS-0505738**. Total Award Amount: $97,402. Award Period: 08/05-07/08.

3. *Simulation of Block Copolymer Assembly for Nanoscale Lithography*, FENA Grant. Total Award Amount: $50,000. Award Period: 04/06-08/06. Co-PI with Prof. Glenn H. Fredrickson (Materials Research Laboratory, UCSB).

4. *Simulation of Block Copolymer Assembly for Nanoscale Lithography*, FENA Grant. Total Award Amount: $300,000. Award Period: 09/06-08/09. Co-PI with Prof. Glenn H. Fredrickson (Materials Research Laboratory, UCSB).

5. *CAREER: Multilevel Physics in the Study of Solids: Modeling, Analysis and Simulations*, NSF Grant **DMS-0645766**. Total Award Amount: $400,000. Award Period: 08/15/2007-08/14/2012.

6. *Mathematical Study of Smectic Liquid Crystals*, NSF Grant **DMS-0908538**. Total Award Amount: $101,645. Award Period: 09/2009-08/2012. Co-PI with Dr. Sookyung Joo.

7. *SOLAR: Development of Methods to Predict Phase Separation and Charge Transport in Bulk Heterojunction Conjugated Polymer Solar Cells*, NSF Grant **DMS-1035480**. Total Award Amount: $1,350,000. Award Period: 09/01/2010-08/31/2013.

8. *Simulation of Block Copolymer Assembly for Nanoscale Lithography*, FENA Grant. Total Award Amount: $914,860. Award Period: 08/2009-08/2012. Co-PI with Prof. Glenn H. Fredrickson, Prof. Edward Kramer and Prof. Craig Hawker (Materials Research Laboratory, UCSB).

9. *FRG: Collaborative Research: Dynamical Processes in Many-Body Systems: Analysis and Simulations*, NSF Grant **DMS-1065942**. Total Award Amount: $1,470,633. Award Period: 08/2011-08/2014. Co-PI with Prof. Roberto Car (Chemistry, Princeton U.), Prof. Weinan E (Mathematics, Princeton U.), and Prof. Emil V. Prodan (Physics, Yeshiva U.).

10. *MRI-R2: Acquisition of a high performance central computing facility at UCSB*, NSF Grant **DMS-0960316**. Total Award Amount: $665,000. Award Period: 05/2010-04/2013. Co-PI with Prof. Frank Brown (PI, Chemistry, UCSB), Prof. John Gilbert (Computer Science, UCSB), Prof. Glenn Fredrickson (Materials Research Laboratory, UCSB), and Prof. Christian Van de Walle (Materials, UCSB).

11. *Quasiatomistic Method of Solids*, NSF Grant **DMS-1217315**. Award Period: 09/2012-08/2015. Co-PI with Dr. Jingrun Chen.

12. *Low-Level Signal Detection for Passive Electro-Optical Space Based Surveillance*, **AF STTR 12-2178**. Co-PI with Dr. Matthew Buoni and Dr. David E. Beckman at Toyon Research.

13. *Effective mechanical structures attributed to the presence of microstructures* , Bavaria California Technology Center, with Prof. Anja Schlömerkemper, University of Würzburg, Germany, 2012-2014 (`http://www.bacatec.de/cgi-bin/details/en/763`)

14. *MURI: : Revolutionary Advances in Correlated Electron Materials: From Strongly Correlated Electrons to Large Scale DFT and Quantum Embedding*, Co-PI with Prof. Garnet Chan (PI, Caltech), Prof. Kaushik Dayal (Carnegie Mellon), Prof. Richard D. James (University of Minnesota), Prof. Lin Lin (UC Berkeley), and Prof. Cyrus Umrigar (Cornell). Award Period: 07/2017-06/2022.

PUBLICATIONS

Micromagnetics

1. **Effective Dynamics in Ferromagnetic Thin Films**, C.J. García-Cervera and W. E, *J. Appl. Phys.* **90**, pp. 370-374, 2001
2. **A Gauss-Seidel Projection Method for the Landau-Lifshitz equations**, X.P. Wang, C.J. García-Cervera, and W. E, *J. Comp. Phys.* **171**, pp. 357-372, 2001.
3. **Accurate Numerical Methods for Micromagnetics Simulations with General Geometries**, C.J. García-Cervera, Z. Gimbutas, and W. E, *J. Comp. Phys.*, **184**, 1, pp. 37-52, 2003.
4. **Improved Gauss-Seidel Projection Method for Micromagnetics Simulations**, C.J. García-Cervera and W. E, *IEEE Trans. Magn.*, **39**, 3, pp. 1766-1770, 2003.
5. **One-Dimensional Magnetic Domain Walls**, *Euro. J. Appl. Math.*, **15**, pp. 451-486, 2004.
6. **Néel Walls in Low Anisotropy Double Layers**, *SIAM J. Appl. Math.*, **65**, pp. 1726–1747, 2005.
7. **Structure of the Bloch Wall in Multilayers**, *Proc. R. Soc. A*, **461**, pp. 1911–1926, 2005.
8. **Magnetic Switching of Thin Films under Thermal Perturbation**, D. Liu, and C.J. García-Cervera, *J. Appl. Physics*, **98**, 023903, 2005.
9. **Thermal activation in Permalloy nanorectangles at room temperature**, E. Martinez, L. Lopez-Diaz, L. Torres and C.J. García-Cervera, *Physica B*, **372**, pp. 286–289, 2006.
10. **Adaptive Mesh Refinement for Micromagnetics Simulations**, C.J. García-Cervera, and A. Roma, *IEEE Trans. Mag*, **42**, pp. 1648–1654, 2006.
11. **Spin-Polarized Transport: Existence of Weak Solutions**, C.J. García-Cervera, and X.P. Wang, *Discrete and Continuous Dynamical Systems B*, **7**(1), pp. 87-100, 2007.
12. **Advances in Numerical Micromagnetics: Spin-Polarized Transport**, *Bol. Soc. Esp. Matem. Apl.*, **34**, pp. 217–221, 2006.
13. **Spin-Polarized Currents in Ferromagnetic Multilayers**, C.J. García-Cervera, and X.P. Wang, *J. Comp. Phys.*, **224**(2), pp. 699–711, 2007.

14. **Micromagnetics simulations with thermal noise: physical and numerical aspects**, E. Martinez, L. Lopez-Diaz, L. Torres and C.J. García-Cervera, *J. Magn. Mag. Mat.*, **316**, pp. 269–272, 2007.
15. **Minimizing Cell Size Dependence in Micromagnetics Simulations with Thermal Noise**, E. Martinez, L. Lopez-Diaz, L. Torres and C.J. García-Cervera, *J. Physics D: Appl. Phys.*, **40**(4), pp. 942–948, 2007.
16. **Numerical Micromagnetics: A Review**, *Bol. Soc. Esp. Matem. Apl.*, **39**, pp. 103–135, 2007.
17. **A numerical study of the self-similar solutions of the Schrödinger Map**, F. De La Hoz, C.J. García-Cervera and L. Vega, *SIAM J. Appl. Math*, **70**(4), pp. 1047–1077, 2009.
18. **A mean-field model for spin dynamics in multilayered ferromagnetic media**, Jingrun Chen, C.J. García-Cervera and Xu Yang, *SIAM J. Multiscale Modeling*, **13**(2), pp. 551–570, 2015.
19. **Mean-field dynamics of the spin-magnetization coupling in ferromagnetic materials: Application to current-driven domain-wall motions**, Jingrun Chen, C.J. García-Cervera and Xu Yang, *IEEE Trans. Mag.*, **51**(6), 1400906, 2015.
20. **Semiclassical limit of the Schrödinger-Poisson-Landau-Lifshitz-Gilbert system**, Lihui Chai, C.J. García-Cervera and Xu Yang, *Arch. Rational Mech. Anal.* **227**(3), p. 897, 2018.
21. **Diffusion limit of the Boltzmann-Landau-Lifshitz-Gilbert system in ferromagnetic materials**, Lihui Chai, C.J. García-Cervera and Xu Yang, *Communications in Mathematical Sciences*, **16**(4), 1057-1067, 2018.
22. **Twin-enhanced magnetic torque**, A. Hobza, C.J. García-Cervera, and P. Müllner, *Journal of Magnetism and Magnetic Materials*, **458**, pp. 183-192, 2018.
23. **Sensitivity of twin boundary movement to sample orientation and magnetic field direction in Ni-Mn-Ga**, Medha Veligatla, Christian Titsch, Welf-Guntram Drossel, C.J. García-Cervera, and Peter Müllner, *Acta Materialia*, **186**, pp. 389–395, 2020.
24. **Magnetic domain-twin boundary interactions in Ni-Mn-Ga**, Medha Veligatla, C.J. García-Cervera, and Peter Müllner, *Acta Materialia*, **193**, pp. 221–228, 2020.
25. **Second-order semi-implicit projection methods for micromagnetics simulations**, Changjian Xie, C.J. García-Cervera, Cheng Wang, Zhennan Zhou, and Jingrun Chen, *Journal of Computational Physics*, **404**, p. 109104, 2020.

Liquid Crystals and Polymers

1. **Computational studies of the shear flow behaviour of a model for nematic liquid crystalline polymers**, D.H. Klein, C.J. García-Cervera, H.D. Ceniceros, and L.G. Leal, *ANZIAM J.*, **46**, C210-C244, 2005.
2. **Stability of the Gyroid Phase in Diblock Copolymers at Strong Segregation**, E.W. Cochran, C.J. García-Cervera, and G.H. Fredrickson, *Macromolecules*, **39**(7), pp. 2449-2451, 2006.
3. **Ericksen number and Deborah number cascade predictions of a model for liquid crystalline polymers for simple shear flow**, D.H. Klein, G. Leal, C.J. García-Cervera, and H.D. Ceniceros, *Physics of Fluids*, **19**, pp. 023101, 2007.
4. **Defects and their removal in block copolymer thin film simulations**, A.W. Bosse, S.W. Sides, K.Katsov, C.J. García-Cervera, and G.H. Fredrickson, *Journal of Polymer Science Part B: Polymer Physics*, **44**, pp. 2495–2511, 2006.
5. **Self-consistent field theory simulations of block copolymer assembly on a sphere**, T.L. Chantawansri, A.W. Bosse, A. Hexemer, H.D. Ceniceros, C.J. García-Cervera, E.J. Kramer, and G.H. Fredrickson, *Physical Review E*, **75**, 031802, 2007.

6. **Microdomain ordering in laterally confined block copolymer thin films**, A.W. Bosse, C.J. García-Cervera, and G.H. Fredrickson, *Macromolecules*, **40**, pp. 9570-9581, 2007.
7. **Numerical Solutions of the Complex Langevin Equations in Polymer Field Theory**, E.M. Lennon, G.O. Mohler, H.D. Ceniceros, C.J. García-Cervera, and G.H. Fredrickson, *Multiscale Modeling and Simulation*, **6(4)**, pp. 1347-1370, 2008.
8. **Three-dimensional shear driven dynamics of polydomain textures and disclination loops in liquid crystalline polymers**, D.H. Klein, C.J. García-Cervera, H.D. Ceniceros, and L.G. Leal, *Journal of Rheology*, **52**, pp. 837-863, 2008.
9. **Geometric strong segregation theory for compositionally asymmetric diblock copolymer melts**, C.B. Muratov, M. Novaga, G. Orlandi, and C.J. García-Cervera, in *'Singularities in nonlinear evolution phenomena and applications*, CRM Series, Birkhauser, 2009.
10. **SCFT Simulations of Thin Film Blends of Block Copolymer and Homopolymer Laterally Confined in a Square Well**, S. Hur, C.J. García-Cervera, E. Kramer, and G.H. Fredrickson, *Macromolecules*, **42**(15), pp. 5861–5872, 2009.
11. **Analytic description of layer undulations in smectic A liquid crystals**, C.J. García-Cervera, and S. Joo, *Journal of Theoretical and Computational Nanosciences*, **7**(4), pp. 795-801, 2009.
12. **Spectral collocation methods for polymer brushes**, T. Chantawansri, S.-M. Hur, C.J. García-Cervera, E. Kramer, and G.H. Fredrickson, *J. Chem. Phys.*, **134**, 244905 (2011).
13. **Analytic description of layer undulations in smectic A liquid crystals**, C.J. García-Cervera and S. Joo, *Arch. Rat. Mech. Anal.*, **203(1)**, pp. 1–43, 2012.
14. **Chebyshev Collocation in Polymer Field Theory: Application to Wetting Phenomena**, S.-M. Hur, C.J. García-Cervera, and G.H. Fredrickson, *Macromolecules*, **45(6)**, pp. 2905–2919, 2012.
15. **Analysis and Simulations of the Chen-Lubensky Energy for Smectic Liquid Crystals**, C.J. García-Cervera and Sookyung Joo, *Comm. Math. Sci.*, **12(6)**, pp. 1155–1183, 2014.
16. **A New Approach for the Numerical Solution of Diffusion Equations with Variable and Degenerate Mobility**, C.J. García-Cervera and H.D. Ceniceros, *J. Comp. Phys.*, **246**, pp. 1–10, 2013.
17. **Block Copolymer Self Assembly during Rapid Solvent Evaporation: Insights into Cylinder Growth and Stability**, S.P. Paradiso, K.T. Delaney, C.J. García-Cervera, H.D. Ceniceros, and G.H. Fredrickson, *ACS Macro Lett.*, **3**, pp. 16–20, 2014.
18. **Ordering kinetics of a conserved binary mixture with a nematic liquid crystal component**, H.D. Ceniceros, C.J. García-Cervera, and M. Mata. *J. Non-Newtonian Fluid Mechanics*, **212**, pp. 18–27, 2014.
19. **Reorientation of Smectic A Liquid Crystals by Magnetic Fields**, C.J. García-Cervera and S. Joo, *Discrete and Continuous Dynamical Systems, series B*, **20**(7), pp. 1983–2000, 2015.
20. **Sawtooth profile in smectic A liquid crystals**, C.J. García-Cervera, T. Giorgi and S. Joo, *SIAM J. Appl. Math.*, **76**(1), pp. 217–237, 2016.
21. **Cyclic Solvent Annealing Improves Feature Orientation in Block Copolymer Thin Films**, Sean P. Paradiso, Kris T. Delaney, Carlos J. García-Cervera, Hector D. Ceniceros, and Glenn H. Fredrickson, *Macromolecules*, **49**(5), pp 1743–1751, 2016.
22. **The onset of layer undulations in smectic A liquid crystals due to a strong magnetic field**, A. Contreras , C. Garcia-Azpeitia , Carlos J. García-Cervera, and S. Joo, *Nonlinearity*, **29**, pp. 2474–2496, 2016.
23. **Three-dimensional coarsening dynamics of a conserved, nematic liquid crystal-isotropic fluid mixture**, Rudimar Nos, Alexandre Roma, Carlos J. García-Cervera, and Hector D. Ceniceros, *J. Non-Newtonian Fluid Mechanics*, **248**, pp. 62-73, 2017.

24. **Switching mechanism in the $B_{1\text{RevTilted}}$ phase of bent-core liquid crystals**, C.J. García-Cervera, Tiziana Giorgi, Sookyung Joo, and Xin Yang Lu, *SIAM J. Math. Anal.*, **50**(5), 4889–4913, 2018.
25. **Optimized Phase Field Model for Diblock Copolymer Melts**, Jimmy V. Liu, C.J. García-Cervera, Kris T. Delaney, and Glenn H. Fredrickson, *Macromolecules*, **52** (7), pp 2878–2888, 2019.
26. **Linear Scaling Self-Consistent Field Theory with Spectral Contour Accuracy**, Daniel L. Vigil, Carlos J. García-Cervera, Kris Delaney, and Glenn H. Fredrickson, *ACS Macro Lett.*, **8**, pp. 1402–1406, 2019.
27. **Boundary vortex formation in polarization-modulated orthogonal smectic liquid crystals**, C.J. García-Cervera, Tiziana Giorgi, and Sookyung Joo, *SIAM Journal on Applied Mathematics*, in press, 2020.

Electronic Structure Theory

1. **An Efficient Real Space Method for Orbital-Free Density-Functional Theory**, *Communications in Computational Physics*, **2** (2), pp. 334–347, 2007.
2. **A sub-linear scaling algorithms for computing the electronic structure of materials**, C.J. García-Cervera, J. Lu, and W. E, *Communications in Mathematical Sciences*, **5(4)**, pp.999-1026, 2007.
3. **A remark on 'An Efficient Real Space Method for Orbital-Free Density Functional Theory'**, C.J. García-Cervera, *Comm. Comp. Phys.*, **3(4)**, pp. 968-872, 2008.
4. **A Linear Scaling Subspace Iteration Algorithm with Optimally Localized Non-Orthogonal Wave Functions for Kohn-Sham Density Functional Theory**, C.J. García-Cervera, J. Lu, Y. Xuan, and W. E, *Phys. Rev. B*, **79** (11), 115110, 2009.
5. **Hartree-Fock Theory with a Self-Generated Magnetic Field**, Silvia Comelli and Carlos J. García-Cervera, *Journal of Mathematical Physics*, **58** 062108 (2017).

Miscellaneous

1. **Sequential multiscale modeling using sparse representation**, C.J. García-Cervera, W. Ren, J. Lu, and W. E, *Comm. Comp. Phys.*, **4**(5), pp. 1025–1033, 2008.
2. **A Density Gradient Corrected Embedded Atom Method**, G. Wu, W. Lu, C.J. García-Cervera, and W. E, *Phys. Rev. B*, **79**, 035124, 2009.
3. **Systematic study of exciton diffusion length in organic semiconductors by six experimental methods**, J. Lin, O. Mikhnenko, J. Chen, Z. Masri, A. Ruseckas, A. Mikhailovsky, R. Raab, J. Liu, P. Blom, M.A. Loi, C.J. García-Cervera, I. Samuel, T.-Q. Nguyen, *Materials Horizons*, **1**, pp 280–285, 2014.
4. **Effect of Copper Metalation of Tetrabenzoporphyrin Donor Material on Organic Solar Cell Performance**, M. Guide, J. Lin, C. Proctor, J. Chen, C.J. García-Cervera, and T.-Q. Nguyen, *J. Mater. Chem. A*, **2**, pp. 7890–7896, 2014.
5. **An atomistic/continuum coupling method using enriched bases**, Jingrun Chen, C.J. García-Cervera and Xiantao Li, *SIAM J. Multiscale Modeling and Simulations*, **13**(3), pp. 766–789, 2015.
6. **High Order Finite Difference Discretization for Composite Grid Hierarchy and Its Applications**, Qun Gu, Weiguo Gao, and C.J. García-Cervera, *Commun. Comput. Phys.*, **18**(5), pp. 1211–1233, 2015.
7. **Detecting Small Surface Vibrations by Passive Electro-Optical Illumination**, Matthew Buoni, Wellesley Pereira, Reed A. Weber, and Carlos García-Cervera, *Proc. of SPIE Vol. 9219, Infrared Remote Sensing and Instrumentation XXII*, 92190E, 2014.

8. **An efficient multigrid strategy for large-scale molecular mechanics optimization**, Jingrun Chen and Carlos J. García-Cervera, *Journal of Computational Physics*, **342**(1), pp. 29—42, 2017.

BOOKS EDITED

1. **Advances in Materials Modeling: Analysis and Simulations**, *Special Issue of Discrete and Continuous Dynamical Systems, Series B*, **Volume 6**, Number 2, 2006.

PROFESSIONAL MEMBERSHIPS

1. American Mathematical Society (AMS).
2. Society for Industrial and Applied Mathematics (SIAM).
3. Sociedad Española de Matemática Aplicada (Spanish Society for Applied Mathematics).
4. National Association of Mathematics (NAM).

GRADUATE STUDENTS SUPERVISED

1. August W. Bosse, Physics Department. Co-advised with Prof. Glenn H. Fredrickson. Ph.D. degree obtained in October 2006.
2. D. Harley Klein, Chemical Engineering. Co-advised with Prof. L.G. Leal and Prof. H.D. Ceniceros. Ph.D. degree obtained in June 2006.
3. Erin Lennon, Chemical Engineering. Co-advised with Prof. Glenn H. Fredrickson and Prof. H.D. Ceniceros. Ph.D. degree obtained in 2008.
4. Jiawei Qi, Mathematics. Ph.D. degree obtained in 2008.
5. Tanya Chantawansri, Chemical Engineering. Co-advised with Prof. Glenn H. Fredrickson and Prof. H.D. Ceniceros. Ph.D. degree expected in 2008.
6. Su-Mi Hur, Chemical Engineering. Co-advised with Prof. Glenn H. Fredrickson. Ph.D. degree in January 2012.
7. Briana Tippets, MS, 2014. Currently at Toyon Research.
8. Sean Paradiso, Chemical Engineering. Co-advised with Prof. Glenn H. Fredrickson and Prof. H.D. Ceniceros. Ph.D. obtained in 2016.
9. Silvia Comelli, Mathematics, Ph.D. degree obtained in June 2016.
10. Kyle Mylonakis, Mathematics, Ph.D. degree obtained in June 2019.

POST-DOCTORAL FELLOWS SUPERVISED

1. Dr. Matthew Mata, Mathematics Department, Ph.D. from UCLA.
2. Dr. Lihui Chai, Mathematics Department, Ph.D. from Tsinghua University, Cina, 2013.
3. Dr. Jingrun Chen, Mathematics Department, Ph.D. from Chinese Academy of Sciences.
4. Dr. Sookyung Joo, Mathematics Department, Ph.D. from Purdue University.
5. Dr. Yulin Xuan, Mathematics Department, Ph.D. from Princeton University.